DOCUMENT RESUME

ED 051 108 SP 004 981

AUTHOR	Carter, Heather L.
TITLE	A Study To Determine the Value of Providing the Learner with Regularly Scheduled Assessment Items To Assess Behavioral Acquisition.
INSTITUTION	Texas Univ., Austin.
PUB DATE	[71]
NOTE	8p.; Paper presented at the Annual Meeting of American Educational Research Association, New York, 1971
AVAILABLE FROM	Heather L. Carter, Research and Development Center for Teacher Education, University of Texas, Austin, Texas 78712
EDRS PRICE	EDRS Price MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	*Behavioral Objectives, *Elementary School Teachers, Evaluation Methods, *Performance Criteria, Post Testing, *Preservice Education, *Teacher Education

ABSTRACT

This study tested the hypothesis that preservice elementary education majors given an operational definition of stated performance objectives in the form of assessment items demonstrate higher acquisition rate with respect to the described behaviors than those students not given the operational definition. The study population was two groups of students registered in a mathematics methods course. Eight weeks of instruction followed a pretest. Group A was provided with behavioral objectives before the class began and assessment items after every session. Group B was given only the objectives. A test composed of criterion items was administered to each group at the end of the second 8-week course. The scores were analyzed and significant differences were observed at the .05 level between the groups. Group A had gained significantly more of the stated behaviors. The study indicates that there is an advantage when the learners are given an operational definition of the objective in the form of assessment items. It would seem that both curriculum developers and instructors should provide the learner with such a definition at the end of every instructional sequence. The assessment should provide a careful matching with the stated objectives. Further questions are whether there is as great an advantage if the assessment items are given only on alternate occasions or on one occasion in three. (Author/MBM)

ED051108

PROCESS WITH MICROFICHE AND PUBLISHER'S PRICES. MICROFICHE REPRODUCTION ONLY.

A STUDY TO DETERMINE THE VALUE OF PROVIDING THE LEARNER WITH REGULARLY SCHEDULED ASSESSMENT ITEMS TO ASSESS BEHAVIORAL ACQUISITION

Heather L. Carter
The Research and Development Center
for Teacher Education
The University of Texas at Austin
Austin, Texas 78712

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

(Paper presented at Annual Meeting of American Educational Research Association, New York 1971.)

Data have been collected which indicate that learners receiving performance objectives before instruction gain a larger proportion of the competencies than those learners not provided with the objectives (Engel, 1968; Cook, 1969). One characteristic of a performance objective is that it states what the learner will be expected to do after instruction. However, in order that objectives may be generalizable and not merely encompass trivial behaviors, these statements sometimes cease to describe specifically the performances desired.

At the college level an example of a performance objective for preservice elementary education students enrolled in a mathematics methods course might be, "After instruction the student should be able to construct a sequence of learner outcomes related to the operation of multiplication." Although this objective satisfies the critical characteristics of a performance objective, it still permits for some variation in interpretation. It was the concern for this ambiguity that led to the construction of the following hypothesis:

> Preservice elementary education majors, given an operational definition of stated performance objectives in the form of assessment items following each segment of instructional activities, demonstrate higher acquisition rate with respect to the described behaviors than those students not given the operational definition.

SP004981

DESIGN OF THE STUDY

Two groups (A and B) of preservice elementary education majors at the University of Texas were selected for this study. The course in which they were enrolled was an elementary school mathematics methods course. The students themselves chose the group to which they belonged. However, to determine the similarity of the two groups, the following procedures were employed:

1. A pretest was administered to both groups, A and B. The test items followed the same format as that to be employed in later phases of the study and covered material which would be presented in the methods course (Table One). A t-test was used to test for differences between the two groups. The data and analysis related to these are displayed in Table Two. No significant differences were observed between the two groups.
2. Instruction was given by the author to the two groups for eight weeks. The same procedures were used with each of the groups. Objectives were stated in performance terms and given to the students before each instructional session. A test was administered to the two groups at the end of the eight weeks of instruction (Table Three). No significant differences were observed.

The results from these tests indicated that there were no significant differences between the two groups with respect to the competencies required for the course, or with respect to their reaction to the instructor, or with respect to their response to the specification of objectives for each instructional session.

TABLE ONE An example of a performance objective and an assessment item to check the acquisition of the behavior.

Objective:	After instruction the student should be able to construct a sequence of learner outcomes related to the operation of multiplication.
Assessment Item:	Assume that you are teaching a third grade class. One boy, Randy, had difficulty with this problem, $n = 14 \times 3$ What are three competencies coming immediately before this which the student may not have acquired and which are needed to complete this equation?

TABLE TWO Data used for comparing the two groups at the beginning of the study.

$$H_0: \mu_A - \mu_B = 0$$

	Group A	Group B
N	32	32
ΣX	2291	2304
$\bar{X}$	71.75	72
ΣX^2	166817.0	168652.0

$s^2 = 89.6728$

$t = 0.1056$

Not significant at the .05 level

TABLE THREE Data used for comparing the two groups at the beginning of the study.

$$H_0: \mu_A - \mu_B = 0$$

	Group A	Group B
N	32	32
ΣX	2703	2685
$\bar{X}$	84.4687	83.9062
ΣX^2	230287.0	226991.0

$s^2 = 59.2046$

$t = 0.2924$

Not significant at the .05 level

During the second eight weeks of the semester, Group A was given the set of performance objectives for each of the class sessions before the instruction began. At the end of each class session, the students were given an operational definition of each of the objectives in the form of an assessment item. The items were similar to the one displayed in Table One. There was a one-to-one correspondence between each of the items and the performance objectives. The responses to the assessment items were not assigned a grade by the instructor but were discussed with the student when requested. Group B was given the performance objectives for each class session before the instruction was given but was not given the assessment items. The instruction was as similar as possible for both groups and was presented in each case by the author.

At the end of the second eight week session, a test was administered to each group. Both groups were presented with the same test which was composed of criterion items. Each item matched one of the performance objectives stated for the instruction given in the course.

FINDINGS FROM THE STUDY

The test scores were analyzed and significant differences were observed at the .05 level between the two groups (Table Four). Group A, the group in which the students were given the operational definitions, had gained significantly more of the stated behaviors.

CONCLUSIONS

As was suggested earlier, it has been demonstrated that students, given a statement of the objectives, acquire significantly more of the

TABLE FOUR Data used for comparing the two groups at the end of the study.

$$H_0: \mu_A - \mu_B = 0$$

	Group A	Group B
N	32	32
ΣX	2831	2445
$\bar{X}$	88.4687	76.4062
ΣX^2	251663.0	188113.0

$s^2 = 40.4465$

$t = 7.5869$

Significant at the .05 level

described behaviors than those students not given a statement of the objectives. The study currently being reported, however, indicates that there is added advantage when the learners are also given an operational definition of the objective in the form of assessment items. It would seem therefore that both curriculum developers and instructors would provide the learner with such a definition at the end of every instructional sequence. The assessment should provide a careful matching with the stated objectives.

Further questions might be asked with respect to variable scheduling of the assessment procedures. Is there as great an advantage if students are given the assessment items on only alternate occasions, or on one occasion in three? Does the provision of the assessment items have any influence upon the retention of the material being learned? These seem to be valid questions upon which to focus.